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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,575	04/07/2004	Scott E. Moore	MI22-2493	8575

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EXAMINER

PUNNOOSE, ROY M

ART UNIT	PAPER NUMBER
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.2877

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,575

Applicant(s)

MOORE ET AL.

Examiner

Roy M. Punnoose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-21, 49-52, 59-60, 63-69 and 71-80 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-21, 60, 63-69 and 75-77 is/are allowed.
- 6) ☒ Claim(s) 49-52, 59, 71-73 and 78-80 is/are rejected.
- 7) ☒ Claim(s) 74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/30/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on March 30, 2006 is acknowledged and has been entered into the records. Applicant has amended claims 19-21, 49, 60, 66-69, 71 and 73 and introduced new claims 75-80. The applicant has canceled claims 1-18, 22-48, 53-58, 61-62 and 70. Currently, claims 19-21, 49-52, 59-60, 63-69 and 71-80 are pending in the application.

2. After careful review of the amended claims and prior art search based on the amended claims, the examiner has discovered new prior art documents which contains subject matter relevant to applicant's claimed invention.

Claim Objections

3. **Claims 19 and 79 are objected to because of the following informalities:**

a. Claim 19 is objected to because the word "another" is broken up with a space in between "an" and "other" (see last line).

b. Claim 79 is objected for reason(s) of objection similar to that of claim 19 above. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 49-51, 59, 71, 73 and 78-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Topol (U.S. Patent No. 3,441,737).**

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6. Claim 49 is rejected because:

- A. Topol discloses a method comprising providing a container 82 (see Figure 4) providing subject material, monitoring the turbidity of the subject material and generating a signal (see col.col.5 line 1-35 and specifically lines 19-25) indicative of the turbidity of the subject material after the monitoring and wherein the subject material comprises a fluid and particulate matter within the fluid, and wherein the monitoring comprises monitoring settling of the particulate matter 84 within the fluid (see col.1, lines 22-55 and col.4, lines 60-75), said method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.
- B. However, Topol does not explicitly teach that the fluid is static in the condition or of monitoring turbidity at a predefined vertical position in a method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.
- C. Topol teaches that the method is directed to meet a “need for testing the condition of liquid in settling tanks, digesters, lagoons and the like” (see col.1, lines 25-28) from which it is clear that it includes fluid in static condition. Topol further teaches of monitoring turbidity at various depths or levels of the tank (see col.1, lines 49-55 and col.4, line73- col.5, line 1) containing the fluid to be monitored in a method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.

D. In view of Topol's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor a fluid in static state and monitor the turbidity of the fluid at any desired vertical position due to the fact that the clarity of said fluid can be more accurately determined when the fluid is in static condition, and therefore there is no turbulence in the fluid, and at any desired or predetermined vertical position so that settling of any particulate matter at different levels can also be determined with accuracy for quality control purposes.

7. Claim 50 is rejected for the same reasons of rejection of claim 49 above and because, in view of Topol's teaching of monitoring turbidity at various levels (see col.1, lines 49-55 and col.4, line 73- col.5, line 1), it would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor a fluid in static state and monitor the turbidity of the fluid at another or any desired location to determine the settling of particulate matter at different levels for quality control purposes.

8. Claim 51 is rejected for the same reasons of rejection of claim 49 above and because Topol discloses that the monitoring comprises emitting electromagnetic energy with a light bulb 16 towards the subject material and receiving at least some of the electromagnetic energy with a photocell 18 (see col.2, line 60- col.3, line 4).

9. Claim 59 is rejected for the same reasons of rejection of claim 49 above.

10. Claim 71 is rejected for the same reasons of rejection of claim 49 above and because from Topol's teaching of monitoring the "degree of settling within the tank ... either periodically or on a continuous basis" (see col.4, lines 65-67), it is obvious to one of ordinary skill in the art at the time the invention was made that Topol is monitoring precipitation rates of the particulate matter

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within the fluid. It can be concluded that if it not for monitoring of the precipitation rates of the particulate matter, there is no need to monitor the turbidity either periodically or on a continuous basis.

11. Claim 73 is rejected for the same reasons of rejection of claims 49 and 50 above and because Topol monitors turbidity with respect to all particulate matter suspended in the fluid at various vertical positions within the container/tank 82.

12. Claim 78 is rejected for the same reasons of rejection of claims 49 and 50 above and because in view of Topol's teaching of monitoring turbidity with one sensor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to duplicate Topol's teaching and monitor turbidity with a plurality of sensors due to the fact that a plurality of sensors would give the ability to monitor turbidity at different locations simultaneously.

13. Claim 79 is rejected for the same reasons of rejection of claim 78 above and because in view of Topol's teaching of testing consistency of a fluid containing particles, it is obvious to one of ordinary skill in the art at the time the invention was made that since consistency relates to the uniformity of different type and/or size of particles, it is obvious that particulate matter monitored by one of the sensors is different than particulate matter monitored by another of the sensors because particles depending on its size and density tend to accumulate at different vertical positions.

14. Claim 80 is rejected for the same reasons of rejection of claims 78 and 79 above and because it is obvious to one of ordinary skill in the art at the time the invention was made that information from a plurality of sensors have to used to determine turbidity at different locations in the tank/container having fluid with particulate matter.

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15. Claims 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Topol (U.S. Patent No. 3,441,737) in view of Strippler et al (U.S. Patent No. 4,990,346).

16. Claim 52 is rejected because:

- A. Topol teaches all claim limitations as disclosed above.
- B. However, Topol does not teach rotating the subject matter during monitoring in a method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.
- C. Strippler et al (Strippler hereinafter) teaches of rotating the subject matter (see col.3, lines 50-57) during monitoring in a method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.
- D. In view of Strippler's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate rotating the subject matter during monitoring turbidity of a fluid due to the fact that by rotating the subject matter, a uniform/homogeneous fluid with a predetermined or desired turbidity level can be obtained with improved accuracy for the purpose of enhancing the quality of a fluid product.

17. Claims 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Topol (U.S. Patent No. 3,441,737) in view of Simms (U.S. Patent No. 3,713,743).

18. Claim 72 is rejected because:

- A. Topol teaches all claim limitations as disclosed above.

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- B. However, Topol does not teach a method comprising using a computer, providing information regarding turbidity of a subject material using the output signal from a detector, in a method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.
- C. Simms teaches a method comprising using a computing means 50 (see col.4, lines 41-49), providing information regarding turbidity of a subject material using the output signal from a detectors 36, 40 (see Figure 1) in a method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.
- D. In view of Simm's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate using a computing means, providing information regarding turbidity of a subject material due to the fact that using the computer data processing can be achieved with speed and efficiency in method for monitoring turbidity of a fluid to quantify particulate matter contained in said fluid at any desired level so that the clarity of the fluid can be determined for quality control purposes.

Allowable Subject Matter

- 19. Claims 19-21, 60, 63-69 and 75-77 are allowable.
- 20. Claim 19 would be allowable because none of the prior art references disclose an apparatus in which particulate matter monitored by one of the sensors is different than the particulate matter monitored by another of the sensors, in combination with the rest of the limitations of claim 19.

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21. Claims 20-21, 60, 63, 65-69 and 75-77 are allowable because they are dependent on allowable claim, claim 19.

22. Claim 64 would be allowable because none of the prior art references disclose a sensor comprising a housing that is configured to attach to a supply connection containing a subject material and detach from the supply connection without disruption of the flow of subject material within the supply connection.

23. Claim 74 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, or if the rejection to its parent claim can be overcome.

24. Claim 74 would be allowable because none of the prior art references disclose a turbidity monitoring method comprising rotating the container comprising subject material during the monitoring, in combination with the rest of the limitations of claim 74.

Contact/Status Information

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Roy M. Punnoose** whose telephone number is **571-272-2427**.

The examiner can normally be reached on 9:00 AM - 5:30 PM.

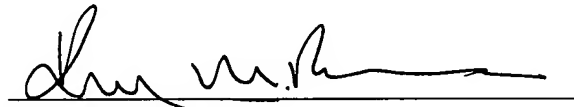
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gregory J. Toatley, Jr.** can be reached on **571-272-2800 ext.77**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 12, 2006

A handwritten signature in black ink, appearing to read 'Roy M. Punnoose', written over a horizontal line.

Roy M. Punnoose

Patent Examiner

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